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EXAMINER	
PERILLA, JASON M	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/665,594	BULLMAN ET AL.	
	Examiner	Art Unit	
	Jason M Perilla	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-33 are pending in the instant application.

Response to Arguments

2. Applicant's arguments filed June 30, 2004 have been fully considered but they are not persuasive.

Regarding the Applicant's arguments over the 35 USC § 103(a) rejections Lechleider et al (US 6091713; hereafter "Lechleider") in view of Bellenger et al (US 6058110; hereafter "Bellenger") (claims 1-7, 12-21, and 26-29; see page 9), Bellenger clearly discloses a DSL modem. Bellenger discloses a combination voice band/DSL band modem. Bellenger provides:

"The present invention allows a modem to operate in both the voice band, from 300 to 3400 Hz, has typified by V.34 and 56K modems, and also in the *ADSL band, which extends above 3400 Hz.* A modem according to the present invention communicates with a modem on the other end of a telephone line to determine if the other modem is capable of operating in the *ADSL* band. If so, and if the telephone line is capable of carrying signals in the *ADSL* band, the modems communicate at a higher data rate in the *ADSL* band. Otherwise, by default the modems communicate at a lower data rate in the voice band" (col. 2, lines 57-67).

While the applicant's argument asserts that the modem of Bellenger is only a conventional voice band modem which operates at a higher bit rate and frequency bandwidth (into the DSL band), the Examiner points out that such a description sufficiently defines an ADSL modem. Further, as broadly as claimed, the ADSL modem of Bellenger fits the description of the ADSL modem of the Applicant. While the amendment filed June 30, 2004 attempts to distinguish the ADSL modem of the instant

application with the addition of the clause, "wherein said combination analog/DSL modem supports analog service to a subscriber and DSL service to said subscriber" to each independent claim, the clause fails to distinguish the ADSL modem of the instant application from the one disclosed by Bellenger. Indeed, the ADSL modem of Bellenger sufficiently provides DSL service over the DSL band frequencies.

Further regarding the Applicant's arguments over the 35 USC § 103(a) rejections Lechleider in view of Bellenger, the motivation to combine has been considered in view of the Applicant's arguments, and the Examiner maintains that the combination is properly motivated as presented in the art rejections below, as described herein, and in the response to arguments section of the office action filed June 4, 2004. Lechleider discloses that after the testing a communications line with a voice band modem, it could be replaced with a DSL band modem. The teaching of Bellenger is the use of a combination or "dual band" (fig. 1, ref. 110) voice/DSL modem wherein upon a favorable testing of a communications line, one modem would not need to be replaced by another because both modems are already present as one unit thereby saving the step of replacing one modem by another.

Regarding the Applicant's arguments over the 35 USC § 103(a) rejections including Vogt, III et al (US 5625667; hereafter "Vogt") (claims 8-11, 22-25, and 30-33; see page 11), the Examiner notes that Vogt does not need to provide for the ADSL modem supporting ADSL service because Bellenger already provides for the limitation.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-7, 12-21, and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lechleider et al (US 6091713; hereafter "Lechleider") in view of Bellenger et al (US 6058110; hereafter "Bellenger").

Regarding claim 1, Lechleider discloses a method for deploying digital subscriber line (DSL) service via an analog modem (col. 2, lines 17-29; col. 3, lines 7-13) comprising, receiving a subscriber login request into a network site via an analog modem (col. 3, lines 33-41), determining a suitability of a service line used by the subscriber for supporting DSL service via the analog modem (col. 5, lines 47-52), and approving installation of DSL service on the service line when suitability is determined to support DSL service (col. 7. lines 40-41). The analog modem must make a subscriber login request to a network site to establish a connection as is understood in the art. Lechleider does not explicitly disclose the use of an analog/DSL modem wherein the combination analog/DSL modem supports analog service to a subscriber and DSL service to said subscriber. However, Bellenger teaches the use of a modem that operates throughout the voice band and also extended operation above the voice band for DSL (col. 2, lines 56-60). Further, Bellenger teaches an analog/DSL modem that determines if the telephone line is capable of operating in the DSL band, and uses the DSL band if the determination is favorable (col. 2, lines 60-67). The analog/DSL

modem of Bellenger provides analog service while operating in the analog (voice) band and DSL service while operating in the DSL band (col. 2, lines 57-67). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to use the analog/DSL modem of Bellenger with the method of deploying DSL service of Lechleider because the DSL band modem would be immediately available for DSL band communications as taught by Bellenger and would advantageously modify the method of Lechleider by removing the step of replacing the analog (voice) band modem with one that operates in the DSL band (a DSL modem).

Regarding claim 2, Lechleider in view of Bellenger disclose the limitations of claim 1 as applied above. Further, Bellenger discloses, after the step of approving, providing DSL service to the combination analog/DSL modem (col. 2, lines 60-67).

Regarding claim 3, Lechleider in view of Bellenger disclose the limitations of claim 1 as applied above. Further, Lechleider discloses that a network site is accessed via a separate connection to an Internet (fig. 1). It is inherent that by the use of an analog modem, a separate connection to an Internet is created proceeding the subscriber login request.

Regarding claim 4, Lechleider in view of Bellenger disclose the limitations of claim 1 as applied above. Further, Lechleider discloses providing at least one of an address and a telephone number to the network site via an analog modem (col. 7, lines 61-67).

Regarding claim 5, Lechleider in view of Bellenger disclose the limitations of claim 1 as applied above. Further, Lechleider discloses that determining the suitability

of the service line further comprises performing a measurement of at least one parameter of the service line using the analog modem (col. 6, lines 8-29).

Regarding claim 6, Lechleider in view of Bellenger disclose the limitations of claim 5 as applied above. Further, Lechleider discloses that the performing of a measurement further comprises measuring the amplitude of a signal transmitted over the service line (col. 6, line 13-14). It is inherent in the process of measuring RX/TX power that a measurement of amplitude is made.

Regarding claim 7, Lechleider in view of Bellenger disclose the limitations of claim 5 as applied above. Further, Lechleider discloses that the performing of a measurement further comprises measuring a return echo over the service line (col. 6, lines 24-25).

Regarding claim 12, Lechleider in view of Bellenger disclose the limitations of claim 1 as applied above. Further Lechleider discloses making a list of subscribers that are approved for service (col. 7, lines 40-41). The limitation including informing a subscriber that DSL service is not available when the service line is determined to not support DSL service is obvious in view of the utility of the DSL loop characterization as disclosed by Lechleider. Because the purpose of the method disclosed by Lechleider is to determine the availability of DSL service on a telephone loop for a subscriber, it is obvious that if the service is found to be unavailable, the subscriber would be notified.

Regarding claim 13, Lechleider in view of Bellenger disclose the limitations of claim 12 as applied above. The limitation including informing a subscriber why DSL service is unavailable is obvious in view of the telephone loop testing as performed by

Lechleider. The utility of carefully characterizing the potential DSL telephone loop as described by Lechleider is provided by the knowledge of why the DSL service can or can not be provided. Therefore, it would be obvious to provide this information to a potential subscriber, because a reason for the unavailability of the service is known by the method, and the potential subscriber may request the reasoning of the unfavorable service determination.

Regarding claim 14, Lechleider in view of Bellenger disclose the limitations of claim 1 as applied above. Further, Bellenger discloses that the DSL modem is selected (col. 2, lines 56-67).

Regarding claim 15, Lechleider in view of Bellenger disclose the limitations of claim 14 as applied above. Troubleshooting the installed DSL service by having the analog modem portion of the combination analog/DSL modem to re-determine the suitability of the service line is not explicitly stated by Lechleider in view of Bellenger. However, if the method using an analog/DSL modem to determine suitability of a telephone loop for DSL transmissions is suitable, then it would be obvious to utilize the analog modem to troubleshoot the DSL telephone loop once service is activated because the method was used to troubleshoot the connection before service was started, and it is still available to troubleshoot the connection after the service was started. For instance, if the connection was lost, the analog portion of the modem would "troubleshoot" or attempt to reconnect (Bellenger; fig. 9; col. 11, lines 7-15), and it would re-determine the suitability of the service line. The process of re-determining the service line characteristics as shown in figure 9 of Bellenger is performed without the

disconnection/reconnection of either the voice band or DSL band modem because they are combined into one modem.

Regarding claim 16, Lechleider discloses a computer program product for deploying digital subscriber line (DSL) services via an analog modem (col. 2, lines 17-29; col. 3, lines 7-13). The computer program product comprises a computer usable medium having computer readable program code thereon, including program code for logging into a network site via an analog modem (col. 3, lines 33-41) and program code for determining a suitability of a service line for DSL services via the analog modem (col. 7. lines 40-41). The analog modem must make a subscriber login request to a network site to establish a connection as is understood in the art. Lechleider discloses that the analog modem may be contained in a personal computer (col. 4, lines 35-36). It is inherent that the computer program product comprises computer usable medium in the form of some type of memory (i.e. RAM, ROM, HDD) that is readable by the computer. As understood by one in the art, the program product code may be also present in the modem itself in the form of firmware contained on computer readable medium such as the ROM of the modem. It is inherent that a modem also contains a program product. Lechleider et al does not explicitly disclose the use of an analog/DSL modem or the program code for installing DSL services when the service line is determined to be suitable to support DSL services wherein the combination analog/DSL modem supports analog service to a subscriber and DSL service to said subscriber. (col. 2, lines 57-68). However, Bellenger et al teaches the use of a modem that operates throughout the voice band and also extended operation above the voice band

for DSL (col. 2, lines 56-60). Further, Bellenger et al teaches an analog/DSL modem that determines if the telephone line is capable of operating in the DSL band, and program code for installing DSL services if the DSL band determination is favorable (col. 2, lines 60-67). Since control of the modem is accommodated by the program code, it is the program code that enacts and installs the DSL service by the selection of the DSL modem. The analog/DSL modem of Bellenger provides analog service while operating in the analog (voice) band and DSL service while operating in the DSL band (col. 2, lines 57-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time which the invention was made to combine the analog/DSL modem and program code to install the DSL service of Bellenger with the DSL suitability determination program product of Lechleider because the DSL band modem would be immediately available for DSL band communications as taught by Bellenger and would advantageously modify program product of Lechleider by removing the step of replacing the analog (voice) band modem with one that operates in the DSL band (a DSL modem).

Regarding claim 17, Lechleider in view of Bellenger disclose the limitations of claim 16 as applied above. Further, Lechleider discloses program code for accessing the network site via a separate connection to an Internet (fig. 1). It is inherent that by the use of an analog modem, a separate connection to an Internet is created proceeding the subscriber login request.

Regarding claim 18, Lechleider in view of Bellenger disclose the limitations of claim 16 as applied above. Further, Lechleider discloses program code for providing at

least one of an address and a telephone number to the network site via an analog modem (col. 7, lines 61-67).

Regarding claim 19, Lechleider in view of Bellenger disclosed the limitations of claim 16 as applied above. Further, Lechleider discloses program code for directing the analog portion of the modem to measure at least one parameter of the service (col. 6, lines 8-29).

Regarding claim 20, Lechleider in view of Bellenger disclose the limitations of claim 19 as applied above. Further, Lechleider discloses that at least one parameter comprises an amplitude of a signal transmitted over the service line (col. 6, line 13-14). It is inherent in the process of measuring RX/TX power that a measurement of amplitude is made.

Regarding claim 21, Lechleider in view of Bellenger disclose the limitations of claim 19 as applied above. Further, Lechleider discloses that the at least one parameter comprises a return echo over the service line (col. 6, lines 24-25).

Regarding claim 26, Lechleider in view of Bellenger disclose the limitations of claim 16 as applied above. Further, Bellenger discloses program code to select the DSL modem (col. 2, lines 56-67). It is inherent that the DSL modem is selected by program code controlling the operation of the modem.

Regarding claim 27, Lechleider discloses an analog modem (col. 4, lines 35-38) comprising a parameter test module adapted to measure at least one parameter of a service line via the analog modem module (col. 6, lines 6-29) and a parameter reference module (col. 5, lines 62-67) adapted to correlate the measurement by the

parameter test module for supporting services via a DSL modem module. Lechleider discloses that the modem can store information (parameter reference module) about the quality of a telephone loop. Further a computer in an access server can read the results of the parameter reference module to determine supporting DSL services (col. 6, lines 1-3). Hence, the parameter reference module is adapted to correlate the measurements by the parameter test module for supporting DSL services. Lechleider does not explicitly disclose the use of an analog/DSL modem wherein the combination analog/DSL modem supports analog service to a subscriber and DSL service to a subscriber. However, Bellenger teaches the use of a modem that operates throughout the voice band and also extended operation above the voice band for DSL (col. 2, lines 56-60). Further, Bellenger teaches an analog/DSL modem that determines if the telephone line is capable of operating in the DSL band, and uses the DSL band if the determination is favorable (col. 2, lines 60-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time which the invention was made to combine the analog/DSL modem of Bellenger with the particular suitability determination of DSL service of Lechleider because the DSL band modem would be immediately available for DSL band communications as taught by Bellenger and would advantageously modify the modem of Lechleider by replacing it by one having both analog (voice) band service as well as DSL band service (a DSL modem).. Hence, the combination of Lechleider in view of Bellenger discloses or suggests a single combination analog/DSL modem comprising: an analog modem module adaptively connected to said combination analog/DSL modem (Bellenger; col. 2, lines 56-60), a DSL modem module adaptively

connected to said combination analog/DSL modem (Bellenger; col. 2, lines 56-60), a parameter test module adaptively connected to said combination analog/DSL modem adapted to measure at least one parameter of a service line via the analog modem module (Lechleider; col. 6, lines 6-29), and a parameter reference module (Lechleider; col. 5, lines 62-67) adaptively connected to said combination analog/DSL modem adapted to correlate the measurement by said parameter test module to a suitability for supporting services via the DSL modem module.

Regarding claim 28, Lechleider in view of Bellenger disclose the limitations of claim 27 as applied above. Further, Lechleider discloses that the parameter test module is adapted to measure the amplitude of a signal transmitted over the service line (col. 6, line 13-14). It is inherent in the process of measuring RX/TX power that a measurement of amplitude is made.

Regarding claim 29, Lechleider in view of Bellenger disclose the limitations of claim 27 as applied above. Further, Lechleider discloses that the parameter test module is adapted to measure a return echo over the service line (col. 6, lines 24-25).

5. Claims 8-11, 22-25, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lechleider in view of Bellenger as applied to claims 5, 19, and 27 above, and further in view of Vogt, III et al (US 5625667; hereafter "Vogt").

Regarding claim 8, Lechleider in view of Bellenger disclose the limitations of claim 5 as applied above. Lechleider in view of Bellenger do not disclose that performing the measurement of claim 5 further comprises measuring a tip voltage of the service line. However, Vogt teaches that the tip and the ring voltage can be measured

to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 9, Lechleider in view of Bellenger disclose the limitations of claim 5 as applied above. Lechleider in view of Bellenger does not disclose that performing the measurement of claim 5 further comprises measuring a ring voltage of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the

telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 10, Lechleider in view of Bellenger disclose the limitations of claim 5 as applied above. Lechleider in view of Bellenger do not disclose that performing the measurement of claim 5 further comprises measuring a capacitance of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 11, Lechleider in view of Bellenger disclosed the limitations of claim 5 as applied above. Lechleider in view of Bellenger do not disclose that performing the measurement of claim 5 further comprises measuring the impedance of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance, and hence the impedance, of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 22, Lechleider in view of Bellenger disclose the limitations of claim 19 as applied above. Lechleider in view of Bellenger do not disclose that the at least one parameter comprises a tip voltage of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a

telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 23, Lechleider in view of Bellenger disclosed the limitations of claim 19 as applied above. Lechleider in view of Bellenger do not disclose that the at least one parameter comprises a ring voltage of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance of the telephone loop as taught by Vogt in

the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 24, Lechleider in view of Bellenger disclose the limitations of claim 19 as applied above. Lechleider in view of Bellenger do not disclose that the at least one parameter comprises a capacitance of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 25, Lechleider in view of Bellenger disclosed the limitations of claim 19 as applied above. Lechleider in view of Bellenger do not disclose that the at least one parameter comprises an impedance of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches

that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance, and hence the impedance, of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 30, Lechleider in view of Bellenger disclose the limitations of claim 27 as applied above. Lechleider in view of Bellenger do not disclose that the parameter test module is adapted to test a tip voltage of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill

in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 31, Lechleider in view of Bellenger disclose the limitations of claim 27 as applied above. Lechleider in view of Bellenger do not disclose that the parameter test module is adapted to test a ring voltage of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 32, Lechleider in view of Bellenger disclose the limitations of claim 27 as applied above. Lechleider in view of Bellenger do not disclose that the parameter test module is adapted to test a capacitance of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Regarding claim 32, Lechleider in view of Bellenger disclosed the limitations of claim 27 as applied above. Lechleider in view of Bellenger do not disclose that the parameter test module is adapted to test an impedance of the service line. However, Vogt teaches that the tip and the ring voltage can be measured to calculate the capacitance and resistance of the telephone line (abstract; col. 4, lines 3-16). Further, Vogt teaches that the telephone operating company would want to measure the

parameters of a telephone line to detect potential problems (col. 1, lines 38-41). Calculating the resistance and capacitance of the telephone line by measuring the tip and ring voltages is beneficial to characterizing the quality of the telephone line connection, and it is applicable to characterizing the quality of the telephone line for DSL communication. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to take the measurements of tip and ring voltage for measuring the resistance and capacitance, and hence the impedance, of the telephone loop as taught by Vogt in the combination of Lechleider in view of Bellenger because the measurements are applicable to assessing the quality of the telephone loop for DSL communications.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Jason M. Perilla
August 10, 2004

jmp

CHIEH M. FAN
PRIMARY EXAMINER